

Tuesday, July 12, 2016 8:51:27 AM

Page 1

Stop ***NR2***

[illegible]

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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Reference:

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Memo

DAS
33
9-89 16/08/12

DAS
33
9-89

DAS
49
9-89

16/08/16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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OTHER : _____					

Work Order ID 148871

Tuesday, July 12, 2016 8:51:27 AM

148871

Page 4

Item ID: D3488-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Blade Fitting LH

Start Date: 7/4/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 7/15/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180

180

HandFinish

Hand Finishing

HandFinishing

Memo

Install Inserts as per Dwg D3488

0.00

0.06

190

190

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.02

200

200

Packaging

Packaging

Identify as per dwg & Stock Location: FP001

Memo

LOCATION : FP001

0.00

0.01

DQA: _____ Date: _____



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800 12 040								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
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SEP 06 2016

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Description Work Order Deviation		Disposition			
DART PS 10-0 DART PS 10-9				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
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OTHER : _____					

Picklist Print

Tuesday, July 12, 2016 8:51:27 AM

Page 1

Work Order ID: 148871

148871

Parent Item: D3488-041

D3488-041

Parent Item Name: Blade Fitting LH

Start Date: 7/4/2016

Required Date: 7/15/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A New Issue 06-02-28 JLM
IPP Rev:B As per Rev B 06-03-30 JLM
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

ALS7-1032-225	AEIS8-1032-225	Purchased	No				Each	239.0000		24			
AI S7-1032-225									**				
Insert													

Location	Loc Qty	Loc Code
FG	150	
118520	120	
m133799	30	
FP001	89	
m131657	16	
m133799	73	

D6103-003

Manufactured No

Each 6.0000

6

D6103-003

Round Billet, Aluminum

Location	Loc Qty	Loc Code
MAT043	6	
145265	6	

5

DAS
45 2016-7-14
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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		OTHER : _____																							

DART AEROSPACE LTD		Work Order:	148871
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	2.150	✓		mic 2-3	JTC-04
Ø2.780	+/-0.005	2.781	✓		mic 2-3	JTC-04
Ø3.125	+/-0.010	3.125	✓		caliper	JTC-01
Ø3.346	+/-0.010	3.347	✓		caliper	JTC-01
0.125 x 45°	+/-0.010 x +/-0.1°	0.125x45°	✓		depth g	JTC-07
8.000	+0.030/-0.000	8.0155	✓		Hv	31006
9.250	+/-0.010	9.249	✓		"	"
0.188	+/-0.010	0.188	✓		"	"
R0.032	+/-0.010	R.032	✓		rad g	Shap
R0.062	+/-0.010	R.062	✓		"	"
Ø0.297	+0.005/-0.001	0.301	✓		caliper	JTC-01
Ø0.430	+/-0.010	0.434	✓		"	"
0.100	+/-0.010	0.1025	✓		"	"
0.125	+/-0.010	0.127	✓		"	"
2.620	+/-0.010	2.626	✓		"	"
3.500	+/-0.010	3.500	✓		Hv	31006
1.005	+/-0.010	1.005	✓		"	"
Ø0.484	+0.005/-0.001	0.487	✓		caliper	JTC-01
1.180	+/-0.010	1.181	✓		"	"
3.150	+/-0.010	3.148	✓		"	"
3.070	+/-0.010	3.067	✓		Hv	31006
R0.063	+/-0.010	R.063	✓		rad g	Shap
measured by		45			checked by	
date		9-89 2016-7-14			date:	

1.097
2.823
2.15
1.505

DART AEROSPACE LTD		Work Order:	148871
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 2 of 2	

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	0.511	✓		MJP-04	vern
0.750	+/-0.010	0.750	✓		↓	↓
1.500	+/-0.010	1.500	✓		↓	↓
11.18	+/-0.030	11.168	✓		31006	Height gauge
R0.062	+/-0.010	0.062	✓		—	Radius gauge
0.125	+/-0.010	0.120	✓		MJP-04	vern
0.590	+/-0.010	0.590	✓		31006	Height gauge
0.793	+/-0.010	0.793	✓		MJP-04	vern
1.351	+/-0.010	1.355	✓		31006	Height gauge
1.317	+/-0.010	1.327	✓		MJP-04	vern
1.802	+/-0.010	1.797	✓		31006	Height gauge

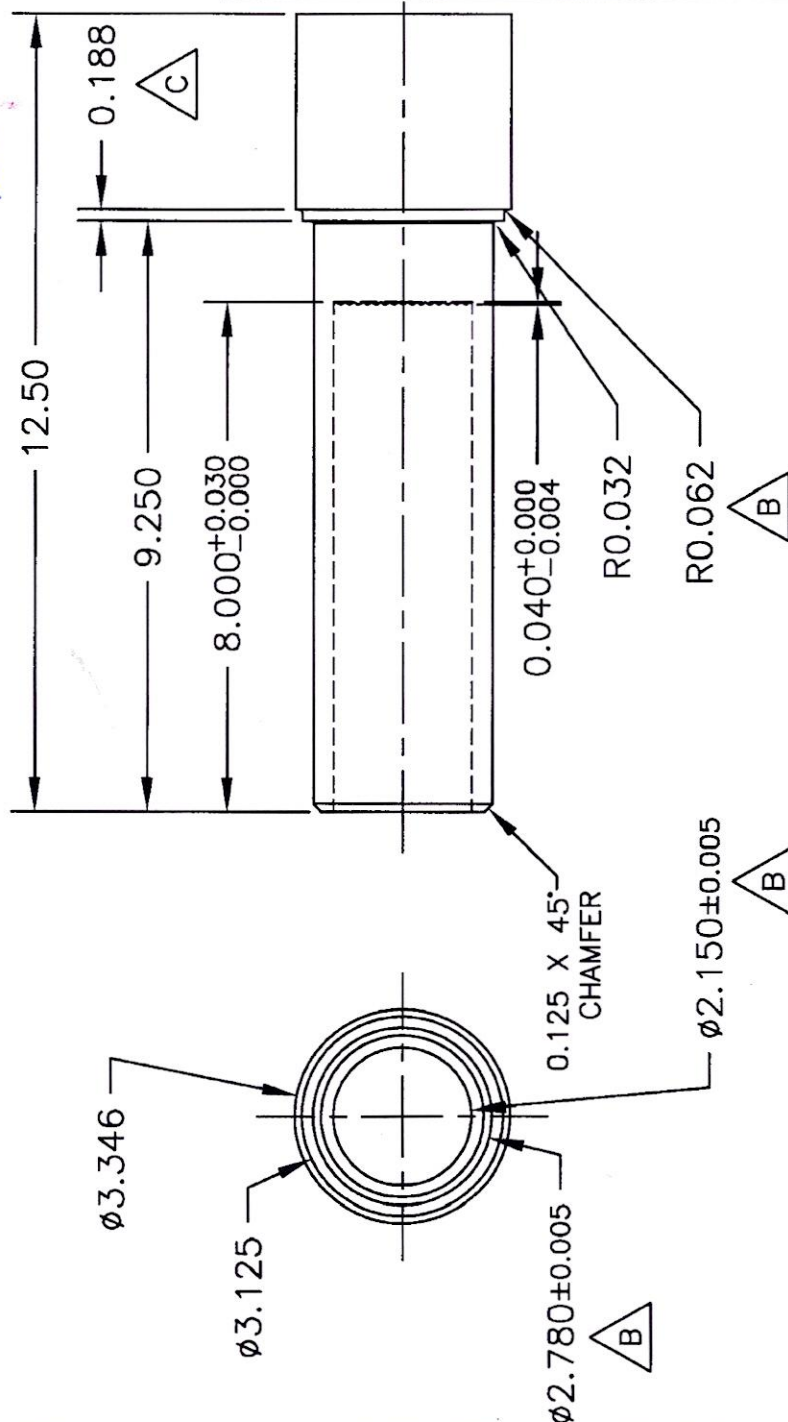
Measured by: DAS 33 9-89	Audited by: DAS 49 9-89	Prototype Approval:	N/A
Date: 11/02/12	Date: 11/08/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-041	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM	

DART

DESIGN PH	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. DSK 101	REV. D SHEET 1 OF 1
DATE 06.05.09		TITLE D3488-1/-2 TURNING DETAIL	SCALE 1:3
A	05.12.21	NEW ISSUE	
B	06.03.02	ADD TOLERANCES AND RADIUS	
C	06.04.17	0.188 WAS 0.125	
D	06.05.09	REMOVE DIAMETER FOR CHAMFER	

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 148871 MJS
1007-13

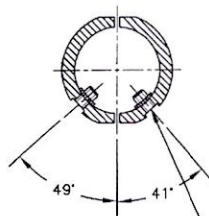


DSK 101

- 1) MATERIAL: MAKE FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9
(REF. DART MATERIAL SPEC M7075T73R)
- 2) FINISH: NONE
- 3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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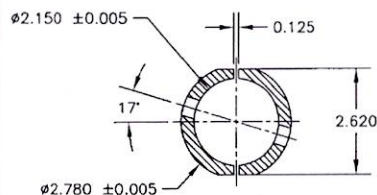
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SECTION B-B

Ø0.297
C'BORE Ø0.430 x 0.100
INSTALL ALS4-1032-225 (OR AKS4-1032-225
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)

4



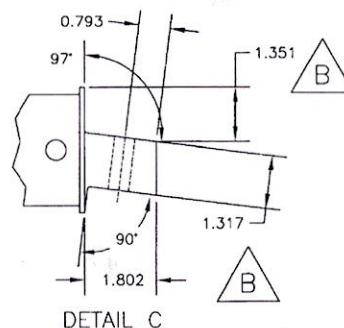
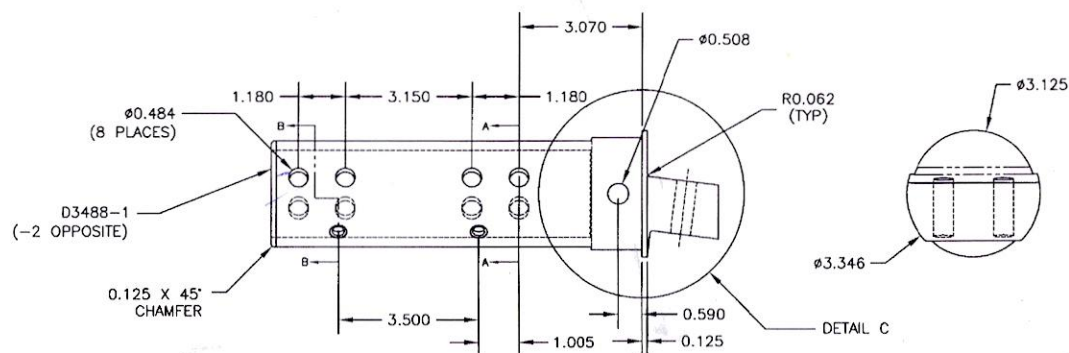
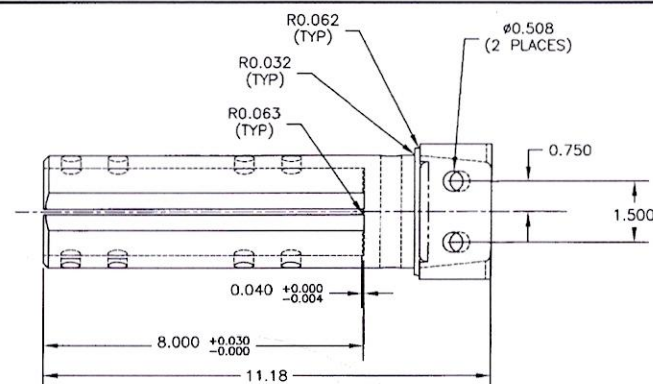
SECTION A-A

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D3488-041	BLADE FITTING ASSEMBLY (LH)
	X	D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

D3488-041/-042 BLADE FITTING

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



D3488-041 SHOWN (D3488-042 OPPOSITE)

RELEASED
06.03.15 PH
REV B
ECN #737

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	PH	APPROVED PH
DATE	06.03.15	TITLE
		BLADE FITTING
		SCALE
		1:3

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DART AEROSPACE USA, INC.
PORT HADLOCK, MA

DRAWING NO. D3488

REV. B

SHEET 1 OF 1